

ABSTRACT

A stretching method and apparatus of an optical fiber base material including gripping both ends in a longitudinal direction of an optical fiber base material by a pair of gripping devices, and, while pulling the optical fiber base material by moving one or both of the pair of the gripping devices in a first direction parallel to the longitudinal direction, moving a heating device relative to the optical fiber base material in a second direction opposite to the first direction, wherein stretch of the optical fiber base material is performed while changing the relative moving speed $V_b(x)$ in accordance with expression (1):

$$V_b \cdot [D_{\max}/D(x)]^2 \leq V_b(x) \leq V_b \cdot [D_{\max}/D(x)]^3 \quad (1)$$

where V_b represents a reference speed, D_{\max} represents a maximum outer diameter of the optical fiber base material, $D(x)$ represents an outer diameter at a heated position x of the optical fiber base material, and $V_b(x)$ represents a relative moving speed of the heating device relative to the optical fiber base material at the heated position x .